

Maintaining The Perfect
Dough Hydration

Essential Calculations



A Step-by-Step Guide

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Mastering the Art of Bread Baking

Bread baking is an enjoyable and rewarding activity that anyone can learn, and today, we will explore a classic bread recipe perfect for beginners and experienced bakers alike. This guide will take you through the process of creating a delicious loaf from scratch, with detailed instructions and helpful tips along the way. Plus, we'll address a common baking question: how to adjust the recipe if you wish to omit the egg while maintaining the dough's hydration. So, let's dive into the world of bread baking together!

Part 1: Gathering Your Ingredients and Equipment

Before we begin baking, let's make sure we have everything we need. For this recipe, you'll need:

Ingredients	Grams
All Purpose Flour (Protein 11%)	500g
Instant Yeast	7g
Sugar	20g
Salt	6g
Egg	50g
Water	250g
Butter (Room temperature)	30g

You'll also need a mixing bowl, a stand mixer, and a loaf pan L27cm x B12cm x H10cm. Make sure you have a clean workspace and all your ingredients measured out and ready to go.

Part 2: Mixing the Ingredients

Start by adding the flour, instant yeast, sugar, and salt to your mixing bowl. Use a whisk or a spoon to give the dry ingredients a good mix, ensuring they are well combined. This helps distribute the yeast evenly throughout the flour, which is important for a consistent rise later on.

Next, add the egg and water to the bowl. If you are using a stand mixer, attach the dough hook and start the mixer on its lowest setting. If you are mixing by hand, use a sturdy spoon or your hands to bring the ingredients together.

Once the ingredients are combined, add the softened butter. It's important that the butter is at room temperature so it can be easily incorporated into the dough. Continue mixing (or kneading by hand) until the dough becomes smooth and elastic. This may take around 10 minutes.



To check if your dough is ready, take a small piece and stretch it out gently. If the dough stretches without tearing and you can see light through it, you have a well-developed gluten network, and your dough is ready for the next step.

Part 3: The First Rise

Transfer the dough to a greased bowl, cover it with a clean towel or plastic wrap, and let it rest in a warm place until it has doubled in size. This may take anywhere from 1 to 2 hours, depending on the temperature of your kitchen.

This first rise is crucial as it allows the yeast to ferment, creating gas bubbles that will give your bread its light and airy texture.

Part 4: Shaping and Second Rise

Once your dough has risen, turn it out onto a clean surface and shape it as desired. You can form a simple loaf or get creative with braids or other shapes. Place your shaped dough onto a baking tray, cover it again, and let it rise for a second time until it has doubled in size. This second rise will give your bread a better texture and flavour.

Part 5: Baking Your Bread

Preheat your oven to 180°C (356°F). If you are using an egg wash (a beaten egg brushed over the surface of the dough), apply it now, and add any toppings of your choice.

Bake your bread for 25 minutes, or until it is golden brown. Let it cool on a wire rack before slicing.



Part 6: Egg-Free Alternative

Now, let's talk about how to adjust the recipe if you wish to omit the egg. Eggs add moisture to the dough, so it's important to replace that moisture to maintain the dough's hydration.

To replace a 50g egg, you'll need to calculate 75% of its weight in water, as eggs are about 75% water. So, for a 50g egg, you'll add an additional 37.5g of water to the recipe ($50\text{g} \times 0.75 = 37.5\text{g}$).

Here's the adjusted recipe:

Ingredients	Grams
All Purpose Flour (Protein 11%)	500g
Instant Yeast	7g
Sugar	20g
Salt	6g
water (250g + 37.5g)	287.5g
Butter (Room temperature)	30g

Follow the same steps as before, and you'll end up with a loaf that's just as delicious and has a similar texture to the original recipe.

Part 7: Understanding Hydration

Hydration in bread baking refers to the ratio of water to flour in a recipe, and it plays a crucial role in the texture of your bread. In this recipe, the hydration rate is approximately 58.49%, calculated as follows:

- All-Purpose Flour: 500g (not relevant for hydration)
- Instant Yeast: 7g (not relevant for hydration)
- Sugar: 20g (not relevant for hydration)
- Salt: 6g (not relevant for hydration)
- Egg: 50g (about 75% water, which is 37.5g)
- Water: 250g
- Butter: 30g (about 16.5% water, which is 4.95g)

Calculation:

- Total Water Content = Water from recipe + Water from egg + Water from butter = $250 + 37.5 + 4.95 = 292.45\text{g}$
- Hydration Rate = $(\text{Total Water Content} \div \text{Flour Weight}) \times 100 = (292.45 \div 500) \times 100 = 58.49\%$

The hydration rate of this recipe, accounting for water in the egg and butter, is approximately 58.49%. Understanding hydration can help you adjust recipes to achieve the texture you desire.

Part 8: Understanding Success

Congratulations, you've just baked a delicious loaf of bread from scratch! Whether you followed the original recipe or opted for the egg-free version, you now have a beautiful and tasty result to enjoy.

Take a moment to compare the texture of the two loaves if you tried both versions. Bread baking is as much a science as it is an art, and by understanding the roles of each ingredient and how to adjust them.

Whether you're a beginner or a seasoned baker, we hope this guide has helped demystify the process of bread baking and given you the confidence to try it out for yourself. Remember, practice makes perfect, and each loaf you bake is a step towards perfecting your skills. Don't forget to share your baking adventures with friends and family, and happy baking!

